

**IN THE UNITED STATES DISTRICT COURT  
FOR THE WESTERN DISTRICT OF TEXAS  
WACO DIVISION**

NCS MULTISTAGE INC.	§	
NCS MULTISTAGE, LLC,	§	
	§	CIVIL ACTION NO. 6:20-cv-00622-ADA
Plaintiffs,	§	
	§	
vs.	§	
	§	
TCO AS,	§	
	§	
Defendant.	§	

**JOINT CLAIM CONSTRUCTION STATEMENT**

Pursuant to the Court’s Scheduling Order (Dkt. 45 at 2), Plaintiffs NCS Multistage Inc. and NCS Multistage, LLC (collectively, “NCS”), and Defendant TCO AS (“TCO”) submit this Joint Claim Construction Statement.

**I. UNDISPUTED TERMS**

	<b>Claim Term</b>	<b>Court’s Construction</b>
1	“internal diameter” (Claims 1, 22, 28, and 50)	Plain and ordinary meaning where the plain and ordinary meaning can refer to both an inner surface and a measured diameter.
2	“tubular member” (Claims 1, 22, 28, and 50)	Plain and ordinary meaning.
3	“sealing engagement” (Claims 1, 22, 28, 50, and 55)	a substantially fluid-tight seal
4	“rupture disc is configured to disengage from sealing engagement when exposed to a pressure greater than a hydraulic pressure in the casing string” (Claims 28 and 50)	Plain and ordinary meaning.
5	“disengage the rupture disc from sealing engagement” (Claim 55)	Plain and ordinary meaning.

## II. DISPUTED TERMS

	<b>Claim Term</b>	<b>NCS's Proposed Construction</b>	<b>TCO's Proposed Construction</b>
6	“sealed chamber” (Claims 8, 14, 22, 36, 40, 42, 46, and 50)	Plain and ordinary meaning	Substantially fluid-tight chamber where the rupture disc forms an upper seal of the chamber, a float device forms a lower seal of the chamber, and a casing string there between.
7	“within the upper and lower ends” (Claims 1, 8, 14–15, 22–25, 27–29, 36–43, 46, 50–53, and 55–57)	Plain and ordinary meaning	Inside of the upper and lower ends
8	Preamble: “A float tool configured for use in positioning a casing string in a wellbore...wherein the wellbore has an upper, substantially vertical portion, a lower, substantially horizontal portion, and a bend portion connecting the upper and lower portions and the float tool is configured for use in the casing string such that, when the casing string is positioned in the wellbore for a cementing operation, the rupture disc is located in the upper, substantially vertical portion of the wellbore.” (Claims 1, 28, 30, and 31)	No construction necessary, as the preamble is not limiting.	The preamble is limiting because, when read in the context of the entire claim, the preamble either recites limitations of the claim, or is necessary to give life, meaning, and vitality to the claim limitations.

9	<p>A method for installing casing in a wellbore containing a well fluid and having an upper vertical portion, a lower horizontal portion, and a bend portion connecting the upper and lower portions, the method comprising: running a casing string into the wellbore, the casing string having an internal diameter that defines a fluid passageway between an upper portion of the casing string and a lower portion of the casing string, the upper and lower portions of the casing string separated by a chamber sealed on one end by a rupture disc assembly and on an opposing end by a seal, the chamber containing a first fluid having a first specific gravity wherein the rupture disc assembly comprises (i) a tubular member having an upper end and a lower end, the upper and lower ends connected in-line with the casing string and (ii) a rupture disc having a rupture burst pressure and in sealing engagement with a region of the tubular member within the upper and lower ends, wherein the rupture disc is configured to rupture when exposed to a rupturing force greater</p>	<p>Not indefinite as a mixed method-apparatus claim.</p>	<p>Indefinite as a mixed method-apparatus claim.</p>
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	<b>Claim Term</b>	<b>NCS's Proposed Construction</b>	<b>TCO's Proposed Construction</b>
	<p>than the rupture burst pressure and the region of the tubular member where the rupture disc is attached has a larger internal diameter than the internal diameter of the casing string and is parallel to the internal diameter of the casing string; and floating at least a portion of the casing string containing the sealed chamber in the well fluid in the lower horizontal portion of the wellbore.</p> <p>(Claims 22–25, and 27)</p>		

10	<p>A method for installing casing in a wellbore containing a well fluid and having an upper vertical portion, a lower horizontal portion, and a bend portion connecting the upper and lower portions, the method comprising: running a casing string into the wellbore, the casing string having an internal diameter that defines a fluid passageway between an upper portion of the casing string and a lower portion of the casing string, the upper and lower portions of the casing string separated by a chamber sealed on one end by a rupture disc assembly and on an opposing end by a seal, the chamber containing a first fluid having a first specific gravity wherein the rupture disc assembly comprises (i) a tubular member having an upper end and a lower end, the upper and lower ends connected in-line with the casing string and (ii) a rupture disc having a rupture burst pressure and in sealing engagement with a region of the tubular member within the upper and lower ends, wherein the rupture disc is configured to disengage from sealing engagement when exposed to a</p>	<p>Not indefinite as a mixed method-apparatus claim.</p>	<p>Indefinite as a mixed method-apparatus claim.</p>
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	<b>Claim Term</b>	<b>NCS's Proposed Construction</b>	<b>TCO's Proposed Construction</b>
	pressure greater than a hydraulic pressure in the casing string after the casing string has been positioned in the wellbore and the region of the tubular member where the rupture disc is attached has a larger internal diameter than the internal diameter of the casing string and is parallel to the internal diameter of the casing string; and floating at least a portion of the casing string containing the sealed chamber in the well fluid in the lower horizontal portion of the wellbore. (Claims 50–53, and 55–57)		
11	“rupture burst pressure”  (Claims 1, 8, 14–15, 22–25, 27–29, 36–43, 46, 50–53, and 55–57)	Plain and ordinary meaning.	a hydraulic pressure sufficient to break the rupture disc (i.e., the pressure at which the disc would break in response to hydraulic pressure alone)
12	“region of the tubular member where the rupture disc is attached...is parallel to the internal diameter of the casing string”  (Claims 1, 22, 28, and 50)	Plain and ordinary meaning where the plain and ordinary meaning is “in the region of the tubular member, the rupture disc is directly secured to and in sealing engagement with a cylindrical surface that is wider than and parallel to the inner surface of the casing string	Indefinite
13	“a rupturing force greater than the rupture burst pressure”	a hydraulic pressure or impact force sufficient to rupture the rupture disc	a hydraulic pressure sufficient to disengage the securing mechanism (i.e., a disengaging pressure)

	<b>Claim Term</b>	<b>NCS's Proposed Construction</b>	<b>TCO's Proposed Construction</b>
	(Claims 14–15, 22–25, 27, 29, and 56)		
14	“the rupture disc is...configured to rupture when exposed to a rupturing force greater than the rupture burst pressure” (Claims 1, 22, 29, and 56)	the rupture disc can rupture when exposed to a rupturing hydraulic pressure greater than the rupture burst pressure	the rupture disc can rupture when exposed to a rupturing hydraulic pressure <u>equal to</u> or greater than the rupture burst pressure
15	“specific gravity of the well fluid” (Claims 24 and 52)	Plain and ordinary meaning	Indefinite

Dated: May 24, 2021

POLSINELLI PC

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Respectfully submitted,

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**CERTIFICATE OF SERVICE**

The undersigned certifies that all counsel of record were electronically served with a copy of the foregoing on May 24, 2021, via the Court's ECF system.

/s/ Domingo M. LLagostera  
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